

# MATERIAL SAFETY DATA SHEET

L-4740-A  
September 1985



An explanation of the terms used herein may be found in OSHA 29 CFR 1910.1200,  
available from OSHA regional or area offices.

(Essentially similar to U.S. Department of Labor Form OSHA-20  
and generally accepted in Canada for information purposes)

Do Not Duplicate This Form. Request an Original.



**PRODUCT** P-10 (Nuclear Counter Mixture)

<b>CHEMICAL NAME</b>	Not applicable	<b>SYNONYMS</b>	Proportional Counting Gas
<b>FORMULA</b>	Mixture of Ar & CH <sub>4</sub>	<b>CHEMICAL FAMILY</b>	Not applicable
		<b>MOLECULAR WEIGHT</b>	Not applicable

**TRADE NAME** P-10

For mixtures of this product request the respective component Material Safety Data Sheets. See Section IX.

MATERIAL (CAS NO.)	Vol (%)	1984-1985 ACGIH TLV-TWA (OSHA-PEL)	
Argon (7440-37-1)	90	Simple asphyxiant	(None currently established)
Methane (74-82-8)	10	Simple asphyxiant	(None currently established)

<b>BOILING POINT, 760 mm. Hg</b>	Not applicable	<b>FREEZING POINT</b>	Not applicable
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1)</b>	Gas	<b>VAPOR PRESSURE AT 20°C.</b>	Gas
<b>VAPOR DENSITY (air = 1)</b>	1.3	<b>SOLUBILITY IN WATER, % by wt.</b>	Negligible
<b>PERCENT VOLATILES BY VOLUME</b>	100	<b>EVAPORATION RATE (Butyl Acetate = 1)</b>	Not applicable

**APPEARANCE AND ODOR** Colorless, odorless gas at normal temperature and pressure.

IN CASE OF EMERGENCIES involving this material, further information is available at all times:

In the USA 304 — 744-3487

In Canada 514 — 645-5311

For routine information contact your local supplier

Union Carbide requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product a user should (1) notify its employees, agents and contractors of the information on this MSDS and any product hazards and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the same product hazards and safety information.

UNION CARBIDE CORPORATION ☐ LINDE DIVISION  
UNION CARBIDE CANADA LIMITED ☐ LINDE DIVISION

**THRESHOLD LIMIT VALUE:** See Section II.

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**EFFECTS OF SINGLE (ACUTE) OVEREXPOSURE:**

**SWALLOWING** — A highly unlikely route of exposure.

**SKIN ABSORPTION** — No evidence of adverse effects from available information.

**INHALATION** — Asphyxiant. Moderate concentrations may cause headache, drowsiness, dizziness, excitation, excess salivation, vomiting and unconsciousness. Lack of oxygen can cause death.

**SKIN CONTACT** — No evidence of adverse effects from available information.

**EYE CONTACT** — No evidence of adverse effects from available information.

**EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:** No evidence of adverse effects from available information.

**OTHER EFFECTS OF OVEREXPOSURE:** None currently known.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

**EMERGENCY AND FIRST AID PROCEDURES:**

**SWALLOWING** — This product is a gas at normal temperature and pressure.

**SKIN** — Wash with soap and water.

**INHALATION** — Remove to fresh air. Give artificial respiration if not breathing. Give oxygen if breathing is difficult. Call a physician.

**EYES** — Flush with water.

**NOTES TO PHYSICIAN:** *There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.*

**FLASH POINT**  
(test method)

Not applicable

**AUTOIGNITION**  
**TEMPERATURE**

Not applicable

**FLAMMABLE LIMITS**  
**IN AIR, % by volume****LOWER**

50% approximately

**UPPER**

57% approximately

**EXTINGUISHING MEDIA:** Use media appropriate for surrounding fire. Gas mixture not expected to catch fire (see Unusual Fire and Explosion Hazards).

**SPECIAL FIRE FIGHTING PROCEDURES:** Evacuate all personnel to a safe distance. Immediately deluge containers with water spray from maximum distance until cool, then move containers away from fire area if without risk. See Unusual Fire and Explosion Hazards.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Gas mixture not expected to catch fire due to narrow flammability range of (7% approximately). Flammable or explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with appropriate device. Container may rupture due to heat of fire. No part of a container should be subjected to a temperature higher than 52°C (Approx. 125°F). Containers are provided with pressure relief devices that are designed to vent the contents when they are exposed to elevated temperature.

**STABILITY****CONDITIONS TO AVOID:** See Section IX.**UNSTABLE** **STABLE**

X

**INCOMPATIBILITY (materials to avoid):** Halogens, strong oxidizers.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition or burning of methane component may produce CO/CO<sub>2</sub>.

**HAZARDOUS POLYMERIZATION****CONDITIONS TO AVOID:** None currently known.**May Occur****Will not Occur**

X

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:** Evacuate all personnel to a safe distance. Use self-contained breathing apparatus where needed. Shut off leak if without risk. Ventilate area of leak or move leaking container to well-ventilated area if without risk. Test area, especially confined areas, for sufficient oxygen content prior to permitting re-entry of personnel.

**WASTE DISPOSAL METHOD:** Slowly release into atmosphere outdoors. Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with Federal, State and local regulations.

**RESPIRATORY PROTECTION (specify type):** Select in accordance with OSHA 29 CFR 1910.134. Respirators shall be acceptable to MSHA and NIOSH.

VENTILATION	LOCAL EXHAUST — Preferred.
	MECHANICAL (general) — Adequate.
	SPECIAL — Not applicable.
	OTHER — Not applicable.

**PROTECTIVE GLOVES:** Preferred for cylinder handling.

**EYE PROTECTION:** Select in accordance with OSHA 29 CFR 1910.133.

**OTHER PROTECTIVE EQUIPMENT:** Metatarsal shoes for cylinder handling. Protective clothing where needed. Select in accordance with OSHA 29 CFR 1910.132 and 1910.133.

**CAUTION:** High pressure flammable gas mixture. (See Section V). May form flammable mixtures with air. Use piping and equipment adequately designed to withstand pressures to be encountered. Gas can cause rapid suffocation due to oxygen deficiency. Store and use with adequate ventilation. Close valve when not in use and when empty. Keep away from oxidizing agents.

**MIXTURES:** When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

Be sure to read and understand all labels and other instructions supplied with all containers of this product.

**NOTE:** Compatibility with plastics should be confirmed prior to use. For safety information on general handling of compressed gas cylinders, obtain a copy of pamphlet P-1, "Safe Handling of Compressed Gases in Containers" from the Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA 22202.

**OTHER HANDLING AND STORAGE CONDITIONS:** Never work on a pressurized system. If there is a leak, close the cylinder valve, blow down the system by venting to a safe place, then repair the leak.

The opinions expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide, it is the user's obligation to determine the conditions of safe use of the product.



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